



GAW 2661

App. no. 09/701,705
3815/107

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of : OKUMURA, et al.

Application No. : 09/701,705 Examiner:

Filed : Dec. 1, 2000 Group Art Unit: 2661

Title : CHANNEL ESTIMATION DEVICE AND METHOD,
DEMODULATION DEVICE AND METHOD, AND
FADING FREQUENCY DECISION DEVICE AND
METHOD

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Assistant Commissioner for Patents
Washington, D.C. 20231

TRANSMITTAL LETTER FOR INFORMATION DISCLOSURE STATEMENT

Sir:

Applicants respectfully submit this Information Disclosure Statement pursuant to 37 C.F.R. §§ 1.97 and 1.98. Attached are (1) a citation list, and (2) a copy of each reference cited.

The Examiner is requested to consider the enclosed documents, make them of record, and indicate his or her consideration of the documents by initialing each of the references on the enclosed citation list.

English language translations are provided for the published PCT applications, which are in Japanese. Note that co-pending U.S. patent applications 09/358,037, 09/375,906, and 09/446,560, claim priority of PCT/JP98/05241 (WO 99/27672), PCT/JP98/05727 (WO 99/31835) and PCT/JP99/02154 (WO 99/55033), respectively.

Furthermore, note that, under "OTHER DOCUMENTS":

reference (2), in Japanese, corresponds to reference (1), in English.

reference (4), in Japanese, corresponds to reference (3), in English.

reference (6), in Japanese, basically corresponds to reference (5), in English. The channel estimation method for a time-multiplexed pilot channel disclosed in reference (5) is an improvement in weighting over the channel estimation method for a time-multiplexed pilot channel disclosed in reference (6).



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reference (8), in Japanese, corresponds to reference (7), in English.

reference (10), in Japanese, basically corresponds to reference (9), in English. The channel estimation method disclosed in reference (9) is an improvement in weighting over the channel estimation method disclosed in reference (10). Also, the adaptive weighting method disclosed in reference (9) is an improvement over the adaptive weighting method disclosed in reference (10).

The examiner is respectfully requested to return a copy of the initialed citation list to the applicants' undersigned Attorney.

No fee is believed to be due as this Information Disclosure Statement is believed to be filed prior to the mailing of a first office action on the merits. However, the Commissioner is hereby authorized to charge any deficiency in fee to the undersigned attorney's Deposit Account No. 02-4270.

Respectfully submitted,

Dated: May 24, 2001

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I hereby certify that this paper is being deposited this date with the U.S. Postal Service as First Class Mail addressed to:
Assistant Commissioner for Patents, Washington, D.C. 20231

Ralph F. Hoppin
Ralph F. Hoppin

May 24, 2001
Date

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT	Atty. Docket no.: 3815/107	Application serial no.: 09/701,705
	Applicants: OKUMURA, et al.	
	Filing Date: Dec. 1, 2000	Group Art Unit: 266

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U.S. PATENT DOCUMENTS

Exam. Init	Cite No.	Document Number	Date	Name	Class	Subclass

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FOREIGN PATENT DOCUMENTS

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Exam. Init.	Cite No.	Document Number	Date	Country	Class	Translation
	1	PCT/JP98/05241 (WO 99/27672)	June 3, 1999	PCT		
	2	PCT/JP98/05727 (WO 99/31835)	June 24, 1999	PCT		
	3	PCT/JP99/02154 (WO 99/55033)	Oct. 28, 1999	PCT		

OTHER DOCUMENTS (including Author, Title, Date, Pertinent Pages, etc.)

EXAM. INIT.	CITE NO.	Document Description
	1	Seiichi Sampei And Terumi Sunaga, "Rayleigh Fading Compensation For QAM In Land Mobile Radio Communications," IEEE Trans. Vehicular Technol., Vol. 42, No. 2, pp. 137-147, May 1993
	2	Seiichi Sampei, "Rayleigh Fading Compensation Method For 16 QAM MODEM In Digital Land Mobile Radio Systems," IEICE (Sect. B-II), Vol. J72-B-II, No. 1, pp. 7-15, January 1989
	3	Hidehiro Andoh, et al., "Channel Estimation Filter Using Time-Multiplexed Pilot Channel For Coherent RAKE Combining in DS-CDMA Mobile Radio," IEICE Trans. Commun., Vol. E81-B, No. 7, pp. 1517-1526, July 1998
	4	H. Andoh, et al., "Performance of Pilot Symbols-Assisted Coherent RAKE Receiver Using Weighted Multi-Slot Averaging for DS-CDMA Mobile Radio," Technical Report of IEICE. RCS97-74, pp. 63-68, July 1997



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5	Sadayuki Abeta, et al., "Performance Comparison Between Time-Multiplexed Pilot Channel and Parallel Pilot Channel for Coherent Rake Combining in DS-CDMA Mobile Radio," IEICE Trans. Commun., Vol. E81-B, No. 7, pp. 1417-1425, July 1998
6	Sadayuki Abeta, et al., "The Performance of Channel Estimation Method Using Weighted Multi-Symbol Averaging (WMSA) with Pilot Channel in DS-CDMA," Technical Report of IEICE. RCS97-163, pp. 43-50, November, 1997
7	Sadayuki Abeta, et al., "DS/CDMA Coherent Detection System with a Suppressed Pilot Channel," IEEE GLOBECOM '94, pp. 1622-1626, 1994
8	Sadayuki Abeta, et al., "A Coherent Detection System With A Suppressed Pilot Channel For DS/CDMA Systems," IEICE (Sect. B-II), Vol. J77-B-II, No. 11, pp. 641-648, November 1994
9	Sadayuki Abeta, et al., "Adaptive Channel Estimation for Coherent DS-CDMA Mobile Radio Using Time-Multiplexed Pilot and Parallel Pilot Structures," IEICE Trans. Commun., Vol. E82-B, No. 9, pp. 1505-1513, September 1999
10	Sadayuki Abeta et al., "The Performance of Channel Estimation Method Using Adaptive Weighted Multi-Symbol Averaging (WMSA) with Pilot Channel in DS-CDMA," Technical Report of IEICE. SSE98-20 (RCS98-20) pp. 67-74, April, 1998

Examiner:	Date considered:
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